

REMARKS

I. Introduction

With the cancellation herein without prejudice of claims 23, 28, and 29, and the addition of new claims 33 and 34, claims 11 to 17, 19, 20 to 22, 24 to 27, and 30 to 34 are currently pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration of the present application is respectfully requested.

II. Finality of the Office Action

In making a final rejection, any grounds of rejection “must . . . be clearly developed to such an extent that applicant may readily judge the advisability of an appeal unless a single previous Office action contains a complete statement supporting the rejection[, in which case] the final rejection may refer to such a statement and also should include a rebuttal of any arguments raised in the applicant’s reply.” *M.P.E.P.* § 706.07(a).

In the Applicant’s Amendment of January 13, 2009, Applicant added new claims 21 to 32, of which the Examiner withdrew from consideration claims 28 to 32 because they “are directed towards a specific method of assigning addresses.” Final Office Action, page 2. However, claims 30 to 32 ultimately depend from claim 19 and no reason has been provided for them not to have been considered. Thus, those claims have not been properly withdrawn from consideration and should have been examined. Since, not all of the claims have been examined, the Office Action does not present grounds of rejection “clearly developed to such an extent that applicant may readily judge the advisability of an appeal.”

Applicant therefore respectfully requests withdrawal of the finality of the present Office Action. Applicant further requests that the next Office communication address all of the pending claims, including claims 30 to 32.

II. Rejection of Claims 11 to 14, 16, and 19 to 24 Under 35 U.S.C. § 103

Claims 11 to 14, 16, and 19 to 24 were rejected under 35 U.S.C. 103(a) as unpatentable over the combination of U.S. Patent Application Publication No. 2001/0010424 (the “Osmer” reference), U.S. Patent No. 6,773,029 (the “Hamperl” reference), and Denuto et al., “LIN Bus and its Potential for use in Distributed Multiplex Applications” (the “Denuto” reference). It is respectfully submitted that the combination of the “Osmer,” “Hamperl,” and “Denuto” references does not render the present claims unpatentable, and the rejection should be withdrawn, for at least the following reasons.

As an initial matter, claim 23 has been canceled herein without prejudice, thereby rendering moot the present rejection with respect to claim 23.

As for the other claims, to reject a claim as obvious under 35 U.S.C. § 103, the Office bears the initial burden of presenting a *prima facie* case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish *prima facie* obviousness, three criteria must be satisfied.

First, there must be some suggestion or motivation to modify or combine reference teachings. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). As clearly indicated by the Supreme Court, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. *See KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007). In this regard, the Supreme Court further noted that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.*, at 1396.

Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986).

Third, the prior art reference(s) must teach or suggest all of the claim features. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). As explained herein, the Office Action does satisfy these requirements as to all of the features of the claims.

Regarding claim 11, the Final Office Action asserts that the “Hamperl” reference discloses the feature of “a bus communications arrangement including a toroidal core store that stores a measured value” In support of this assertion, it points to a citation which includes the terms “toroidal-core store or toroidal memory.” (The “Hamperl” reference, column 8, lines 39 to 40.)

While the “Hamperl” reference mentions the term “toroidal-core store,” it is respectfully submitted that the reference does not disclose the toroidal-core store as provided for in the context of claim 11 for at least the reasons explained in the Amendment of January 13, 2009. Regardless, while the rejection may not be agreed with, to facilitate matters, independent claim 11 has been amended herein without prejudice to include the features of canceled claim 23, to recite “wherein the toroidal core store stores more than one

measured value for the weight measurement of each conducting element and is able to store a replacement weight measurement for each conducting element in the event of a transmission error.” It is respectfully submitted that none of the “Hamperl,” “Osmer,” and “Denuto” references, each by itself or in any combination thereof, discloses or suggests this feature.

Although, with respect to canceled claim 23, the Final Office Action conclusorily asserts that column 8, lines 17 to 18 and 36 to 37 of the “Hamperl” reference discloses this feature, the Office Action does not explain, nor is it readily apparent, how the cited sections might be considered to disclose this feature. Indeed, the cited sections have absolutely nothing to do with the claimed subject matter.

In the Response to Arguments section, the Final Office Action asserts that “one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references,” (citing *In re Keller*, F.2d 413, 208 USPQ 871 (CCPA 1981), and *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986)). (*Final Office Action*, page 7, paragraph 17.) It is respectfully submitted that the Office’s reliance on the cited references is misplaced for at least the following reasons.

While one cannot show nonobviousness merely by attacking references individually, one can show nonobviousness by pointing out what is absent from each of the applied prior art references such that the applied prior art references, when viewed as a whole, fail to teach or suggest a claimed element. Applicant has rebutted the Office’s conclusory assertion that the “Hamperl” reference discloses a toroidal core store as provided in the context of the claimed subject matter as presently presented. Applicant has further pointed out that the secondary “Osmer” and the “Denuto” references do not cure, and are not asserted to cure, this critical defect. Thus, since the Office’s assertion that the “Hamperl” discloses a feature of claim 11 and 19 is rebutted, and since it is submitted that the secondary references do not cure, and are not asserted to cure, this feature, there is no tenable argument that the combination of the “Hamperl,” “Osmer,” and “Denuto” references as a whole suggest the feature of “toroidal core store” as provided in claim 11. Accordingly, the combination of the “Hamperl,” “Osmer,” and “Denuto” references does not disclose or suggest the feature of a “toroidal core store” as provided for in the context of claim 1.

Still further, the Final Office Action acknowledges that neither “Hamperl” nor “Osmer” discloses a single wire bus, and instead relies on the “Denuto” reference to cure this critical deficiency. The Final Office Action, paragraph 4, asserts that “it would have been

obvious to one of ordinary skill in the art to combine the teachings of Hamperl, Osmer and Denuto since this would allow the use of a single wire bus, thereby saving costs.”

However, prior art references must be considered as a whole, including portions that teach away from the claimed subject matter. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983). The “Osmer” reference relates to an **analog** signal-based system and, thus, **cannot be readily combined** with the single wire multiplexing approach of the “Denuto” reference, which refers to a bus-system applicable only to **digital signals**. For example, the “Osmer” reference describes an analog signaling approach in that the “force is measured by resistors 60 as an electrical signal that changes with the occupants weight and is transmitted over a wire harness 58 to air bag controller 36. The **voltage level** of each resistor can be correlated to a specific weight at each sensor location.” (See the “Osmer” reference, page 3, lines 9 to 14 (emphasis added) and Fig 1). One skilled in the art will readily recognize that the **voltage level** referred to in “Osmer” implies an **analog** signal.

In stark contrast, the “Denuto” reference refers to a bus-system applicable only to **digital signals**. Each wire in the bus provides only whether the signal is “high” or “low.” Analog and digital signaling is inherently incompatible, requiring elaborate conversion techniques, which are simply not provided. In fact, nothing in the “Osmer” reference suggests that such a converter is needed for the controller to interpret the signals or that the controller inputs or outputs digital signals. Indeed, the “Osmer” reference is completely silent with respect to the inclusion of such a converter, suggesting that an analog to digital converter is unnecessary for the system of the “Osmer” reference to work. The “Osmer” reference’s silence regarding such converters considered in light of that the sensors in the “Osmer” reference output an analog voltage signal corresponding to the weight of the seat occupant, suggests that the system of the “Osmer” reference encompasses the use of analog devices in the controller to combine the analog signals from the sensors.

For at least the foregoing reasons, one skilled in the art would not modify the system of the “Osmer” reference to include the single bus system of the “Denuto” reference with the features of the “Hamperl” reference.

In the Response to Arguments section, it is argued that “[n]owhere does Osmer specify the sensors are analog or digital.” (*Final Office Action*, page 7, paragraph 29). It is respectfully submitted that the “Osmer” reference makes absolutely clear that the sensors are analog in nature. As explained in detail above, the “Osmer” reference evaluates the

voltage level of each resistor and correlates it to a specific weight, which indicates an analog signal.

In the Response to Arguments section, it is further argued that “even if the sensors are analog, it is implicit that there would be an analog to digital converter so that analog signals can be interpreted in the controller.” (*Id.*) Thus, the Office Action essentially asserts that use of an analog to digital converter is inherent. To rely on inherency, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art.” (*See* M.P.E.P. § 2112; emphasis in original; and *see Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int’f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Therefore, for an element to inherently include feature A, feature A must necessarily be part of that element. If feature A is necessarily a part, or characteristic, of an element, then there can be no instance of the element existing without feature A. The Office Action’s conclusory assertion is insufficient to establish as fact that an analog to digital converter must be used. Indeed, analog devices may be used for processing analog signals without such a conversion. The Examiner has therefore not met this burden of establishing inherency.

Moreover, the Final Office Action does not provide any **articulated reasoning** with some **rational underpinning** on why one skilled in the art would combine the cited references as suggested to modify the “Osmer” reference to include features of the “Denuto” reference, which pertains to digital signals. Instead, it is conclusorily asserted that one would thereby be “saving costs.” (*Final Office Action*, page 3, paragraph 6). This assertion is not only unsupported but far-fetched at best. In this regard, the Supreme Court makes clear that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1396 (2007).

It is respectfully submitted that obviousness rejections without documentary evidence “should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration.” *MPEP* § 2144.03(A). In accordance with *MPEP* § 2144.03(C) and 37 CFR § 1.104(d) (2), it is respectfully submitted that an Examiner’s affidavit should be provided to support the

obviousness rejections as to the suggestion that replacing some simple dedicated wires, with a system which would require analog-to-digital conversion circuitry, additional support circuitry for some form of time division multiplexing on the single wire, and then de-multiplexing circuitry at the other end, would be “saving costs” as alleged by the Final Office Action.

For all of the foregoing reasons, it is respectfully submitted that the combination of the “Hamperl,” “Osmer,” and “Denuto” references does not disclose or suggest all of the features recited in claim 11, so that the combination of the “Hamperl,” “Osmer,” and “Denuto” references does not render unpatentable claim 11.

Claims 12 to 14, 16, 21, 22, and 24 ultimately depend from claim 11 and are therefore allowable for at least the same reasons as claim 12. *In re Fine*, supra (any dependent claim that depends from a non-obvious independent claim is non-obvious).

Claim 19 includes features like those of claim 11 and is therefore patentable for at least the same reasons as claim 11.

Claim 20 depends from claim 19 and is therefore allowable for at least the same reasons as claim 19. *In re Fine*, supra (any dependent claim that depends from a non-obvious independent claim is non-obvious).

Withdrawal of this obviousness rejection is therefore respectfully requested.

III. Rejection of Claim 15 Under 35 U.S.C. § 103

Claim 15 was rejected under 35 U.S.C. 103(a) as unpatentable over the combination of the “Hamperl” reference, the “Osmer” reference, the “Denuto” reference, and U.S. Patent Application Publication No. 2005/0172462 (the “Rudduck” reference). It is respectfully submitted that the combination of the “Hamperl,” “Osmer,” “Denuto,” and “Rudduck” references does not render claim 15 unpatentable, and the rejection should be withdrawn, for at least the following reasons.

Claim 15 depends from claim 11 and is therefore allowable for at least the same reasons set forth above in support of the patentability of claim 11, since the “Rudduck” reference does not correct the critical deficiencies noted above with respect to the combination of the “Hamperl,” “Osmer,” and “Denuto” references.

Withdrawal of this obviousness rejection of claim 15 is therefore respectfully requested.

IV. Rejection of Claims 17 and 25 to 27 Under 35 U.S.C. § 103

Claims 17 and 25 to 27 were rejected under 35 U.S.C. 103(a) as unpatentable over the combination of the “Hamperl,” “Osmer,” and “Rudduck” references. It is respectfully submitted that the combination of the “Hamperl,” “Osmer,” and “Rudduck” references does not render claim 17 unpatentable, and the rejection should be withdrawn, for the reasons stated below.

The Final Office Action acknowledges that neither the “Hamperl” reference nor the “Osmer” reference discloses or suggests the claim 17 feature of “causing the control unit to **assign to the at least one connecting element a respective address in accordance with a respective serial number** of the at least one connecting element.” The Final Office Action instead relies on the “Rudduck” reference to cure this critical deficiency. However, the references cannot be combined as suggested for at least the following reasons.

In the “Hamperl” reference, each sensor not only has a **dedicated** control unit but also a **dedicated** wire between the control unit and the sensor. For example, Figure 5 of the “Hamperl” reference illustrates sensors 1, 2, and 5. Control device 3 provides a **dedicated** control unit 33, 34, and 35 for each sensor respectively. Further, each sensor has a **dedicated** wire to its respective control unit. The fact that information is provided on a particular wire clearly implies that that information is from a particular sensor. Therefore, there is absolutely **no need or benefit** to assign addresses to connecting elements, as described in the “Rudduck” reference, since neither the wires nor the control units are shared. Thus, one skilled in the art would not find it obvious to combine the “Hamperl” reference with the “Rudduck” reference as suggested by the Final Office Action.

In the Response to Arguments section it is asserted that “Hamperl discloses the use of a digital bus” in an attempt to establish that “addresses are commonly used to identify individual devices on the bus.” (*Final Office Action*, page 7, paragraph 30). It is respectfully submitted that here the issue is not whether a signal is digital or not, but whether it is **dedicated**. As provided in the discussion above, the “Hamperl” reference makes clear that **each sensor has a dedicated control unit and a dedicated wire between the control unit and the sensor**, thereby completely obviating the need for serial numbers.

Further, in the “Osmer” reference, all the sensors are scanned simultaneously by the controller to determine the proper airbag deployment. “At step 102, sensors 50A, B, C and D are scanned.” (*See*, the “Osmer” reference, paragraph [0037] and Figure 5.) Again, there is **no need or benefit** to using addressing because the analog data from the sensors is

continuously available to the controller and no data is returned to the sensors from the controller. As provided in the discussion above, one skilled in the art would readily recognize that the “Osmer” reference deals with analog signals. The one-way continuous analog communication obviates the need for bus communications, making it unnecessary and unforeseeable to combine the “Osmer” reference with the “Rudduck” reference in the manner suggested by the Final Office Action.

Moreover, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). The “Osmer” reference relates generally to the use of sensors to determine the deployment of vehicle airbags. Airbags must deploy quickly in order to be effective in a vehicular accident, so that it is extremely important that sensor data in the “Osmer” reference be quickly relayed to the controller to effectuate timely deployment of a vehicle airbag. In this sense, the continuous and simultaneous analog scanning of the seat sensors in the “Osmer” reference provides a fast and efficient method of receiving sensor readings to determine whether an airbag should be deployed. Any additional steps that would slow or delay the transmittal of seat sensor data to the controller, such as including a method for addressing individual sensors as described in the “Rudduck” reference, would thus be counter-productive and render the system of the “Osmer” reference unsatisfactory for its intended purpose, so that the modification of the “Osmer” reference proposed by the Final Office Action would have been unforeseeable and must rely on improper hindsight reasoning based on Applicant’s disclosure.

In this regard, it is noted that the “Rudduck” reference indicates that its purpose is to “provide a system of fasteners which can be part of an array, which can be individually addressable and which can enable an orderly, predictable way of accessing replaceable components in assemblies.” (*See* the “Rudduck” reference, paragraph [0006]). While the “Rudduck” reference goes on to provide an example of the use of such a system in an automobile, the example relates to use of **individually addressable fasteners** “in order to remove a radio unit from a motor vehicle.” (*See id.*) However, as noted above, because the use of addressable bus communications system will slow and delay the deployment of a vehicle airbag, it would be **counter-intuitive** and **not obvious** to combine the “Osmer” and “Rudduck” references.

In contrast to the “Osmer” reference, the present invention provides for avoiding slowing and delaying of the deployment of a vehicle airbag. The present invention includes the transmission of one or more measured values from the same connecting element to the control unit, the transmission of which is initiated by a request message from the control unit. Transmitting several measured values from the same connecting element to the control unit requires less overhead and uses less bandwidth so as to improve vehicle airbag deployment time and calculation accuracy from multiple sensor values.

For all of the foregoing reasons, the combination of the “Hamperl,” “Osmer,” and “Rudduck” references does not disclose or suggest all of the features of claim 17, so that the combination of the “Hamperl,” “Osmer,” and “Rudduck” references does not render unpatentable claim 17 or any of its dependent claims 25 to 27.

Withdrawal of the obviousness rejection of claims 17 and 25 to 27 is therefore respectfully requested.

V. New Claims 33 and 34

Claims 33 and 34 have been added. Claims 33 and 34 do not add new matter and supported by the application, including specification, as originally filed.

Claim 33 relates to a system for weight measurement in a vehicle seat, which includes a plurality of connecting elements, a communications system, and an address arrangement. Claim 33 provides that the system is configured to assign addresses to the connecting elements based on transmitted bits of a serial number. As set forth above in support of the patentability of claim 17, the cited references do not disclose or suggest this feature. Moreover, claim 33 provides that the system is configured for repeated transmittals of bits of a serial number and responses from subsets of the connecting elements until only one of the connecting elements responds. None of the cited references discloses or suggests these features. For all of the foregoing reasons, it is respectfully submitted that claim 33 and its dependent claim 34 are allowable.

VI. Conclusion

In light of the foregoing, it is respectfully submitted that all of the presently pending claims are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,

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